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SUMMARY, EVIDENCE, CONCLUSIONS AND RECOMMENDATIONS RELATING
TO INSECT DEPREDATIONS ON THE PINE TIMBER OF NORTHEASTERN
OREGON

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United States Department of Agriculture, Bureau of Entomology.

SUMMARY, EVIDENCE, CONCLUSIONS AND RECOMMENDATIONS RELATING TO IN-
SECT DEPREDATIONS ON THE PINE TIMBER OF NORTHEASTERN OREGON.

(From correspondence, special investigations by agents of the
Bureau of Entomology, Forest Officials, and Private Owners of Tim-
ber, etc.)

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History.

It appears from the evidence secured from various sources that isolated and small areas of dead and dying timber had been noticed by forest officials and others in the Willow National Forest in 1905, and the Whitman National Forest in 1906, but the first information reported to this Bureau was from the Forest Service in June 1907, and referred to extensive depredations in the lodgepole pole pine in the Imnaha, now the Willow, National Forest. The Bureau was requested to make an investigation of the problem and through subsequent correspondence with the local officials specimens of the insect supposed to be the cause of the trouble were secured in February 1907, and identified by the writer as the mountain pine beetle (*Dendroctonus monticolae*) and special information and recommendations transmitted thru the Forest Service for taking the required action to control the depredations by this beetle.

In August, 1907, an agent of the Bureau of Entomology, Mr. H. E. Burke, was instructed to make an investigation in the vicinity of Joseph, Ore., and report, which he did. This report, together with information furnished by the Forest Service, indicated that the depredations

were so extensive and facilities for utilizing the timber so poor that it was not practicable to undertake at that time the work required to control the beetle.

The first information of depredations on the Whitman National Forest was conveyed September, 1907, by a private owner stating that white pine was dying in T. 5 S., R. 38 E., Sec. 6. The insect sent proved to be the mountain pine beetle.

In November 1907, supervisor O'Brien of the (Imnaha) Wallowa National Forest after making a preliminary examination of the area, reported that the lodgepole pine was affected over the entire forest amounting in some places to 50 per cent dead, and that it was impossible to utilize the affected timber; also that he believed that when the lodgepole pine was all killed the beetle would attack the yellow pine.

On March 18, 1909, the district forester, of District 6, requested all available information relating to methods of controlling the ravages of barkbeetles on the pine, Douglas fir, and Engelmann spruce, and in response additional information to that already given was transmitted him.

In July 1909, private owners of timber in land adjacent to the National Forest began to report that the pine was dying and to ask for information as to the cause and remedy.

In November, 1909, a report was received thru the district forester that the yellow pine in the southern border of the Wallowa National Forest (T. 7S. R. 47 E.) was dying.

In January, 1910, private owners reported increased depredations on lands within and adjacent to both Wallowa and Whitman National Forests, and suggested that private interests cooperate with the Department (Agriculture). In reply to this suggestion of cooperation, steps were taken by this Bureau to bring about such action between the various

interests involved, beginning with a letter to Mr. W. C. Calder, Baker City, Ore., dated January 17, in which a plan for cooperation between the private owners and the Bureau of Entomology was outlined and an offer was made to send an expert of the Bureau into the field to give instructions and assistance relating to the control work.

On January 21 a letter was addressed to the District Forester of District 6 requesting information as to the altitude of the Forest Service on the matter of cooperation between private owners, the Forest Service, and the Bureau of Entomology in the inauguration of a beetle-control policy in northeastern Oregon. During the remainder of this month (January) and during February, a very active interest and desire to cooperate was shown by many of the leading timberland owners, which led to much correspondence with them direct and through Mr. Calder relating to the proposition of cooperative control work.

Early in February the district forester offered assistance in the inauguration of cooperative control work and later requested that an agent of this Bureau be located in District 6.

On March 18, 1910, a letter was addressed to each of the District Foresters of Districts 4 and 6 (see accompanying copy supplement A). Favorable replies were received from both the district foresters, indicating their willingness to assist in every way practicable, but stating that there was but little money available for more than experimental work. Both also offered to detail reliable officers to assist the expert of this Bureau.

Active interest among private owners continued to be manifested, leading to an increased correspondence with them during the month of March. In the meantime, reports came in from different sources indicat-

ing the alarming extent of the depredations by the mountain pine beetle on the timber of the Wallowa and Whitman National Forests and privately owned timber within and adjacent to these forests.

In compliance with the request for investigations by experts of this Bureau and the manifested interest in the proposed plan of cooperation, the writer prepared a preliminary plan, or project, (see accompanying copy Project 38) copies of which were sent to the forester and thru the forester to the district officers of Districts 4 and 6, and several copies were sent to Mr. Calder to be distributed to private owners of pine timberlands, who had indicated their desire to cooperate. A letter dated April 8 accompanied them in each case (see accompanying copy supplement A.P.S. supplement III). The general and essential features of the project were approved by the forester in a letter dated April 9, by the Chief of Silviculture in a letter dated April 30, and by the private owners as indicated in a telegram from Mr. Calder dated May 4 (see accompanying copies supplement A.P.8-12).

On this basis of approval, Mr. H. E. Burke, agent and expert of this Bureau, was directed to proceed to Baker City, Ore., and to take charge of the preliminary survey work. The Forest Service was requested to transfer Mr. W. D. Edmonston (forest ranger) to this Bureau from District 2 to District 6 to assist Mr. Burke. Mr. Edmonston arrived on May 13 and Mr. Burke on May 15. On about May 16, ranger Smith and to June 7 Forest Assistant Harvey of the Forest Service detailed /work under Mr. Burke's instructions began the work of securing the required preliminary information as to the character and extent of the infestation on the Wallowa and Whitman forests, and Mr. Calder, representing some of the private interests, assisted in securing information as to the condition on private lands.

WORK ON THE PROJECT.

A complete organization, as specified in the project, was not effected, but was restricted to two representatives of the Bureau of Entomology, two of the Forest Service, and two representing the private interests as follows:

Bureau of Entomology:

H.E.Burke, Agent and Expert in charge from May 15,
W.D.Edmonston, Special Agent, (paid by the Forest Service
from May 13 to 31, inclusive and from June 1st by the
Bureau.)

Forest Service:

R.E.Smith, forest ranger, from May 16.
B. T. Harvey, forest assistant from June 7.

Private interests:

W.C.Calder, from May 13.
Edward Gerber, temporary.

The methods of procedure outlined in the project were carried out so far as was practical, as follows: May 13 and 14, Mr. Edmonston, immediately upon his arrival at Baker City, located characteristic infestations in company with Mr. Calder, and immediately upon Mr. Burke's arrival, on May 15, he and Mr. Edmonston proceeded in automobiles, with a party of ten representatives of timberland companies and six representatives of the Forest Service, to the infested areas located by Mr. Edmonston, and Messrs. Burke and Edmonston gave them the required special instructions and demonstrations on the essential facts relating to the destructive habits of the beetles the characteristic appearance of the beetle-infested trees, beetle-abandoned trees, old beetle-killed trees, and also pointed out the require details in the practical operation of cruising to locate the infested timber, and the principal centers of infestation. The information thus conveyed was reported to be most

satisfactory and convincing to all but it did not lead to the desired organization of cruising parties to conduct the prompt and energetic action to secure the preliminary information as to the extent of dead and dying timber, centers of infestation, etc., as outlined in the project.

Messrs. Burke and Edmonston proceeded at once to conduct the required investigations of the insects and the character of the infestation, and as soon as Messrs. Smith and Harvey report for duty they were directed to proceed with the preliminary survey of the National Forests, Smith being assigned to the Whitman and Harvey to the Wallowa. Later Mr. Edmonston assisted Mr. Calder in securing the desired preliminary information on certain of the private lands, and he also assisted Mr. Harvey in conducting the investigations on the Wallowa. Mr. Burke as planned, gave attention to the general direction of the work and to securing direct information relating to the seasonal history and habits of the beetles, their natural enemies, and the local influences affecting them.

Owing to the limited force available for securing the desired preliminary information on the general character and extent of the infestation over such an extensive area, it was soon apparent that this work could not be completed in time to make a special survey to locate the centers and units of infestation, or to determine the character and extent of the control work to be recommended against the 1909-10 infestation.

The preliminary survey was not completed and all of the reports in until July 12, and by that time the broods of the beetle of the 1909-10 infestation were beginning to emerge and attack the living trees and to thus start the new, or 1910-11, infestation.

Some advance information was secured, however, by the middle of June, which enabled us to conclude that if a sufficient amount of money and men could have been secured and equipped to begin control operations at once, it would have been advisable to select an area of some of the best yellow pine timber toward the eastern border of the Whitman or southwestern border of the Wallowa on which to make an effort to control the beetle and to protect the timber within a given area.

Negotiations were started by telegraphic communication with Mr. Burke and special conferences were held with the Forester with a view of determining the practicability of undertaking such control work, but it soon became apparent that neither the required amount of money from all sources was available nor a sufficient number of laborers necessary to cut and bark the required number of trees within the limited time could be secured. Therefore, no control work was recommended nor attempted against the 1909-10 infestation.

It is very evident, however, that if the preliminary information contained in the various reports submitted had been available previous to the 15th of June and the various interests had been organized for cooperative work, with arrangements perfected for prompt action during the last week in June and first week in July, all that was hoped for, as mentioned in the last paragraph of the project, would have been accomplished.

The information acquired, however, as a result of the preliminary survey and the investigations, serves to make a most important advance against the enemy, since it places us in a position where we have a reliable and impregnable basis of facts on which to plan and conduct the

campaign against the 1910-11 invasion, with every prospect of complete success, provided the one essential requirement is met by the officials and individuals in charge of the Federal State, and private interests, namely, a properly organized and supported cooperative effort to adopt
and carry out a definite policy according to the recommendations and
advice of the Bureau of Entomology.

August 4, 1910.

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